

Deviation

order 3109

10 May 3109



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

RBEM642V4001102-15
Job Sheet 173762



o/s ds

Ship
5-10
NO
FAIL

Part No: RBEM642V4001102-15

Job Qty: 4 ea

Part Name: Wrench Weldment



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 3/7/18

Job Tracking No:

Due Date: 3/30/18

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: DWG RBEM642V4001102 REV 2 IPP REV A 18.03.05 NEW ISSUE FK VERIFY DP

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	Sign-off
100	Start up Operation	4 Ea		3/29/18	0.00	0.00	Start Up Large Fab-7		12
110	Large Fab	4 pcs		3/30/18	0.00	4.00	Large Fab 1		12
120	QC	4 pcs		3/30/18	0.00	0.00	QC9		12
130	Outsource	4 pcs		3/30/18	0.00	0.00	Outsource1		12
140	Outsource	4 pcs		3/30/18	0.00	0.00	Outsource13		12
150	Packaging	4 pcs		3/30/18	0.00	0.00	Packaging2		12
160	QC	4 pcs		3/30/18	0.00	0.00	QC6		12
170	Packaging	4 pcs		3/30/18	0.00	0.00	Packaging3-2		12
180	QC21-SA	4 Ea		3/30/18	0.00	0.00	QC21		12

12-4-7

Part Op 110 - 1- Weld as per DWG

Descriptions: 130 - 1--Issue P/O to Metcore; P/O RC 46-50 2-Bead blast 3- Certificate of Conformity is required

NOTE DROP SHIP TO FINISHER Metcore to ship directly to Groupe Altech***

140 - -Issue P/O to Groupe Altech: P/O 7-10 plate, ASTM B633 TYPE 1 SC2 -Certificate of Conformity is required

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
RBEM642V4001102-17	Wrench	4 Ea (1 ea)	100-Start up Operation	
RBEM642V4001102-19 ✓	Dowel Pin	8 Ea (2 ea)	100-Start up Operation	

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
100-Start up Operation	RBEM642V4001102-17	4	0	0
	RBEM642V4001102-19	8	0	0

Part Specifications

Specifications could not be found.

POSITIVE RECALL

EFFECTIVE

AUTH

RELEASED

DATE

Plex 3/7/18 7:39 AM Dart.lajeunesse.marie

First TIME SUPPLIER

-A STOP SK

-17 wrench NU 5000

173761
@110 QC
COMPLETED
3/20 3:44pm

Stock

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____

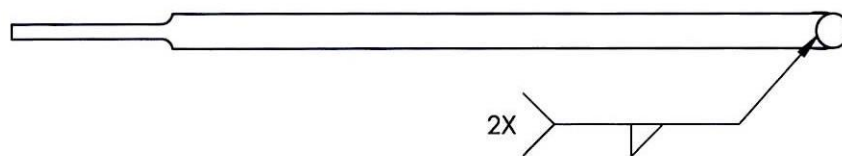
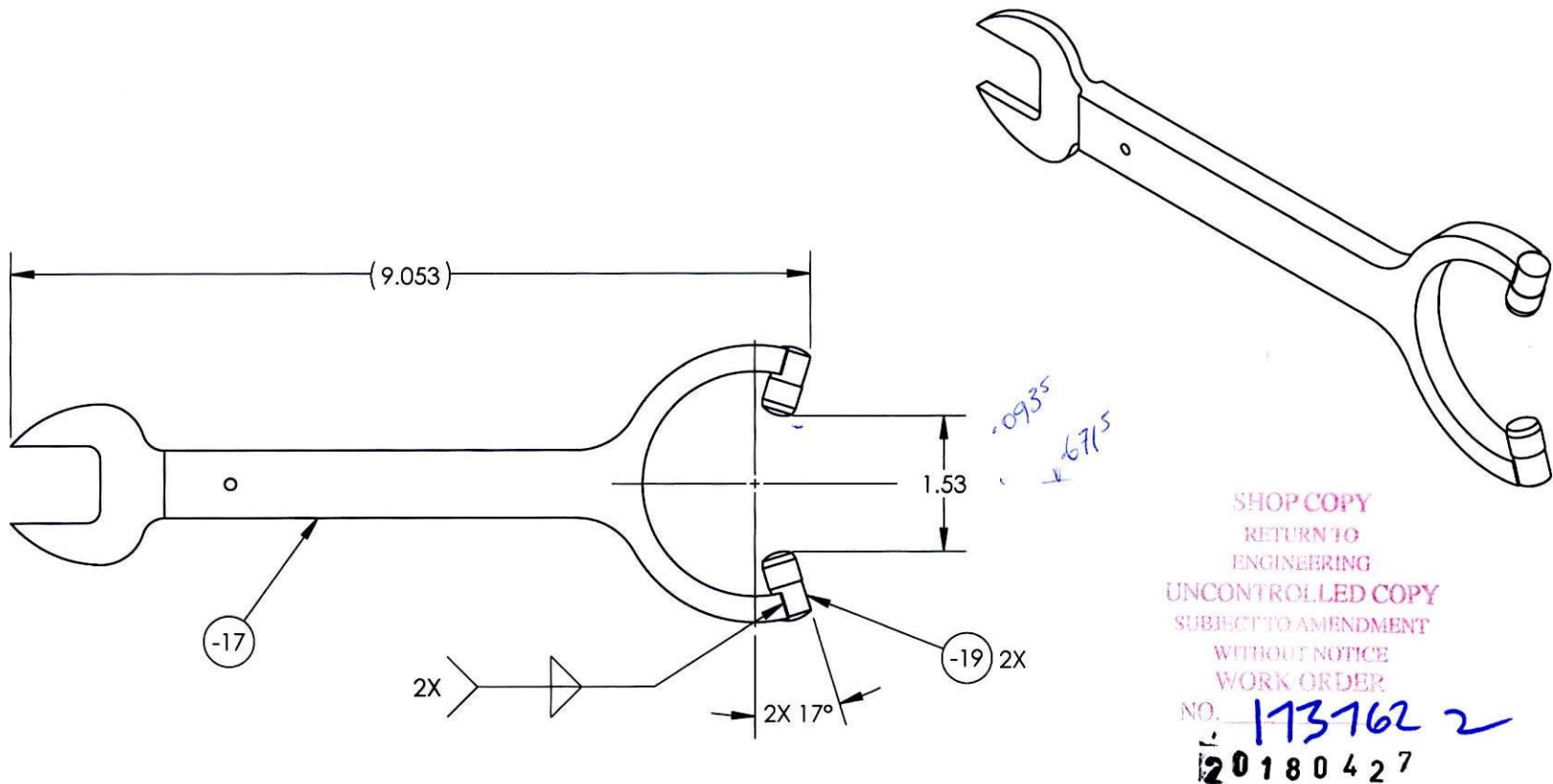
Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

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REVISIONS				DATE	INITIAL	APPROVED
REV	ECR	DESCRIPTION				



(-15)
WRENCH WELDMENT

DART AEROSPACE	
TITLE TRH DAMPER SETTING TOOL	
DWG NO. RBEM642V4001102-15	REV 2
MAT'L ZINC PLATE	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES FRACTIONS ± 1/8 ANGLES ± 5° SURFACES = 125
SPEC ASTM B633 TYPE I SC 2	1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
DRAWN BY: CLOUGH	2. DIMENSIONAL LIMITS APPLY AFTER PLATING
CHECKED: DUERFELDT	3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009
OPPS APPR: ANDERSON	USED ON MODEL H175
QA APPR: LINDSAY	
APPROVED: GILBERT	
SCALE 1:2	DATE 4/11/2016
SHEET 9 OF 11	

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: <u>173762</u> Part No. <u>RBEM642V4001102-15/-17/-19</u> NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS																																																											
				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																																																								
				Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																																																								
				Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																																																								
				Large Fab ☐	Composite ☐	Supplier ☐																																																									
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval March 06, 2018																																																								
Description Work Order Deviation				Disposition																																																											
- As an alternative, to purchasing a dowel pin, manufacture -19 dowel pin from 4140 (Rc 28-32), with a end rad of 0.40" - 0.60" - Do not heat treat -17 - Heat treat -15 Wrench Weldment to Rc 40-50				- This deviation is acceptable. - The fit, form and function of the tool will be as originally intended.				Completed By																																																							
								Lead hand / Supervisor Approval Verification																																																							
								QC / QA Coordinator Approval																																																							
Root Cause				FAULT CATEGORY																																																											
Environment ☐	Design ☒	Doc/Data ☐	Equip/Tooling ☐	Handling/Pre ☐	Material ☐	Internal Transport ☐	Tribal Knowledge ☐	LOA ☐	Substation ☐	Past Expiry Date ☐	Misidentified ☐	No Re-verification ☐	Operator ☐	Offset/Setup ☐	Supplier ☐	Training ☐	Use for Testing ☐	Poor Information ☐	Rushing ☐	Product Improvement ☐	Process Improvement ☐	Manufacturing Process ☐	Past Due ☐	Pressure/Forced ☐	Bending ☐	Centre Not Concentric ☐	Cracks ☐	Crimp/Kink/Ripple/Wave ☐	Cuffs ☐	Crushing ☐	Heat Treat ☐	Wave/Twist in Tube ☐	Marks/Chatter ☐	Temperature/Cure ☐	Set-up ☐	BOM/Route ☐	Broken/Damage/Defect ☐	Inspection Incomplete/Unqualified ☐	Contamination ☐	Countersink ☐	Cut Too Short ☐	Instructions Incomplete/Unclear ☐	Drill Holes ☐	Power Loss/Surge ☐	Folio/Program ☐	Grain ☐	Weld ☐	Wrong Stock Pulled ☐	Out of Sequence ☐	Off-set ☐	Mislabeled ☐	Fit/Function ☐	Misaligned/off center ☐	Positioned Wrong ☐	Outside Dimensions ☐	Over/Under tolerance ☐	Part Incorrect ☐	Part Lost/Missing ☐	Part Moved ☐	Drawing ☐	Finish ☐	Misread ☐	Turning Sequence ☐
OTHER : _____																																																															

QA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unappr ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Quality ☐ Other ☐								
Date : _____		Step #: _____		1270 Aberdeen Street Hamletbury, ON K6A 1K7 CANADA TEL: 1 613 632-5200 Email: sales@dartaero.com www.dartaerospace.com								
Description Work Order Deviation												
Root Cause												
Environment	☐	No Re-verification	☐	Pressure/Forced	☐							
Design	☐	Operator	☐	Bending	☐							
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance	☐	
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect	☐	
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing	☐	
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved	☐	
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing	☐	
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish	☐	
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread	☐	
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence	☐	
Past Expiry Date	☐	Manufacturing Process	☐	OTHER : _____								
Misidentified	☐	Past Due	☐									

Date: 05/08/18

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: <u>173762</u> Part No. <u>RBEM642V4001102</u> NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____		MRB (QSI042) Approval May 07, 2018			
Description Work Order Deviation				Disposition					
- As an alternative, to purchasing a dowel pin, manufacture -19 dowel pin from 4140 (Rc 28-32), with a end rad of 0.40" - 0.60" - Do not heat treat -17 - Heat treat -15 Wrench Weldment to Rc 40-50 - It is acceptable to substitute Zinc Plate for Black Oxide on RBEM642V4001102-1/-3/-5/-15				- This deviation is acceptable. - The fit, form and function of the tool will be as originally intended.				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐ Design ☒ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐				
		OTHER : _____							



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO039833**

Supplier: ATL002-VC
Atlantic Heat Treat 2001
401 Frankcom
Ajax
ON
L1S R14 Canada
Phone: 866 257 6395

PO No: PO039833
PO Date: 5/8/18
Due Date: 5/11/18
Purchase Order
Revision:
Revision Date:
Ship-To Contact: Tsimiklis, ChrisoulaPhone:

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Pymt Terms: Net 30
Freight Terms:
Special Comments:

Items

Line Item	Job	Part	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	176875	C2-3-3	Latch Roller 1-Issue P/O to Atlantic Heat Treat; P/O _____ RC 53-56 2-Bead blast 3- Certificate of Conformity is required -Material:4140	Firmed	5/11/18	20 pcs	0 pcs	20 pcs	\$0.01/pcs	\$0.20
2	175633	C3-3-4	Link Pin 1-Issue P/O to Atlantic Heat Treat; P/O _____ RC 53-56 2-Bead blast 3- Certificate of Conformity is required ***NOTE*** DROP SHIP TO FINISHER Atlantic Heat Treat to ship directly to Groupe Altech*** Material: Drill Rod	Firmed	5/11/18	30 pcs	0 pcs	30 pcs	\$0.01/pcs	\$0.30
3	176725	C10-8	Trunnion Bushing 1-Issue P/O to Atlantic Heat Treat; P/O _____ RC 37-40 2-Bead blast 3- Certificate of Conformity is required ***NOTE*** DROP SHIP TO FINISHER Atlantic Heat Treat to ship directly to Groupe Altech -Material:4140	Firmed	5/11/18	20 pcs	0 pcs	20 pcs	\$0.01/pcs	\$0.20

Items										
Line Item	Job	Part	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
4	173605	RB877206-5-7	Cutter 1-Issue P/O to Atlantic Heat Treat ; P/O _____ RC 50-60 2-Bead blast 3- Certificate of Conformity is required ***NOTE*** DROP SHIP TO GRINDER Atlantic Heat Treat to ship directly to KG grinding. -Material:O1 TOOL STEEL	Firmed	5/11/18	8 pcs	0 pcs	8 pcs	\$0.10/pcs	\$0.80
5	173659	RBEM625V3006101-1	Base P/O to Atlantic Heat Treat: P/O _____ heat treat to RC28-32, bead blast after heat treat, part made from 4140 H round bar Black oxide finish, MIL-C-13924C Class 1 -Apply thin layer of oil/CPC per MIL-PRF-16173 Grade 3 Class 1 or MIL-c-81309 Type III Or MILL-C23411A or MIL-PRF-81309 and wipe off excess. - Certificate of Conformity is required	Firmed	5/11/18	7 pcs	0 pcs	7 pcs	\$19.50/pcs	\$136.50
						7x			At 19/05/14	
6	173762	RBEM642V4001102-15	Wrench Weldment 1-Issue P/O to Atlantic Heat Treat; P/O _____ RC 46-50 2-Bead blast 3-Black oxide finish, MIL-C-13924C Class 1 -Apply thin layer of oil/CPC per MIL-PRF-16173 Grade 3 Class 1 or MIL-c-81309 Type III Or MILL-C23411A or MIL-PRF-81309 and wipe off excess. - Certificate of Conformity is required -Material:4140	Firmed	5/11/18	4 pcs	0 pcs	4 pcs	\$19.50/pcs	\$78.00
						4x			At 19/05/14	
7	176656	RBT18591-5	Puller Rod 1-Issue P/O to Atlantic Heat Treat; P/O _____ RC 32-42 2-Bead blast 3- Certificate of Conformity is required ***NOTE*** DROP SHIP TO FINISHER Atlantic Heat Treat to ship directly to Groupe Altech*** -Material:B7 ALL-THREAD	Firmed	5/11/18	10 pcs	0 pcs	10 pcs	\$0.01/pcs	\$0.10
Grand Total:										\$216.10

Order Notes

Atlantic Heat Treating (2001) Ltd Certification

. **Date:** 15/05/2018

Entry Date: 15/05/2018
Page: 1 of 1

Page: 1 of 1

DART AEROSPACE LTD.
1270 ABERDEEN ST

Packing List No.:

Material: 4140

We are pleased to provide you with the following Certificate of Compliance.

Quantity	Part Number / Part Name / Part Description	Pounds
4	4 pcs materials 4140 anneal and harden rc46-50 black oxide and sand blast rbem642v4001102-15	4

Insp. Type	Scale	Minimum	Maximum	Number	Other
------------	-------	---------	---------	--------	-------

Customer Requirements:

Harden rockwell

Results:

Harden ROCKWE 46. 50. 48. tested as per sampling
heat treated to 48rc with blk oxide as per cust requested

[illegible]

KEAN SHEPHERD
QUALITY CONTROL
ATLANTIC HEAT TREATING 2001 LTD

401 Frankoom Street Ajax L1S 1R4

Phone: 905-612-5277

Fax: 805-819-5288